

Patent Claims

1. Method for involving functions of an automatic call distribution system (ACD) in an interactive voice response system (IVR) that is called and controlled by communication terminal equipment (KE) of the communication network (KN), whereby the interactive voice response system (IVR) and the automatic call distribution system (ACD) are connected to a communication system (KS) of a communication network (KN) and at least one agent communication terminal equipment (AKE) connected to at least one communication system (KS) is allocated to the automatic call distribution system (ACD),
- whereby the interactive voice response system (IVR) and the automatic call distribution system (ACD) are directly coupled;
 - whereby the interactive voice response system (IVR) can be influenced such by a communication terminal equipment (KE) that this communicates a request for reserving (resa, resq) of an available agent (A) or, respectively, agent communication terminal equipment (AKE) to the automatic call distribution system (ACD); and
 - whereby, given a reservation of a requested agent (A) or, respectively, agent communication terminal equipment (AKE), the communication system (KS) is influenced such that the affected communication terminal equipment (KE) is transferred to the reserved agent communication terminal equipment (AKE).
2. Method according to claim 1, characterized in that the interactive voice response system (IVR) and the automatic call distribution system (ACD) are coupled via a local network (LAN), whereby interfaces (KA) for connection to the local network (LAN) are provided in the interactive voice response system (IVR) and in the automatic call distribution system (ACD).

3. Method according to claim 1 or 2, characterized in that, before a request (resa, resq) for reserving (resa, resq), the interactive voice response system (IVR) can interrogate the status of at least one of the agents (A) or, respectively, of the agent communication terminal equipment (AKE) of the automatic call distribution system (ACD), and the request (resa, resq) for reserving an agent (A) or, respectively, agent communication terminal equipment (AKE) is implemented dependent on the currently interrogated status of the at least one agent (A) or, respectively, agent communication terminal equipment (AKE).

4. Method according to claim 1 or 2, characterized in that the interactive voice response system (IVR) cyclically interrogates the status of at least one agent (A) or, respectively, agent communication terminal equipment (AKE) of the automatic call distribution system (ACD); and in that a request (resa, resq) for reserving an agent (A) or, respectively, agent communication terminal equipment (AKE) is implemented dependent on the interrogated statuses of the agents (A) or, respectively, of the agent communication terminal equipment (AKE).

5. Method according to one of the claims 1 through 4, characterized in that the transfer of the affected communication terminal equipment (KE(x)) to the reserved agent communication terminal equipment (AKE) in the communication system (KS) is effected by performance features of call back and transfer initialized by the interactive voice response system (IVR).

6. Method according to one of the claims 1 through 5, characterized in that, given agents (A) or, respectively, agent communication terminal equipment (AKE) currently not available, a call back request communicated from the affected communication terminal equipment (KE(x)) is noted in the interactive voice response system (IVR) with the telephone number information (ri) of the affected communication terminal equipment (KE(x)); and in that an automatic call back is

initiated with the assistance of a further inquiry for reserving an available agent (A) or, respectively, agent communication terminal equipment (AKE), whereby the connection to the reserved agent communication terminal equipment (AKE) is produced and transferred first and a call back connection to the affected communication terminal equipment (KE(X)) is subsequently produced and transferred.

7. Method according to one of the claims 1 through 6, characterized in that requests (a) and acknowledgments (q) are provided for requests between the interactive voice response system (IVR) and the automatic call distribution system (ACD).

8. Method according to claim 7, characterized in that a request or, respectively, an acknowledgment (a, q) [...] by

- a request or, respectively, acknowledgment function code (fc),
- a version information (vi) indicating the current version of the system (IVR, ACD) communicating the request or, respectively, acknowledgment () [sic],
- an identification (acd-id) identifying an automatic call distribution system (ACD),
- an identification (ivr-id) identifying an interactive voice response system (IVR),
- a reference information (ri) unambiguously identifying a request (a), and
- at least one request or, respectively, acknowledgment-dependent parameter (p).

9. Method according to one of the claims 1 through 8, characterized in that a logon request (lona) logging the interactive voice response system (IVR) on at the automatic call distribution system (ACD) is communicated, this being answered by the automatic call distribution system (ACD) with a logon acknowledgment

(lonq), whereby an access protection information (pass) is inserted as parameter (p) in the logon request (lona) and the check result of the logon request (lona) is inserted in the logon acknowledgment (lonq).

10. Method according to one of the claims 1 through 9, characterized in that a log off request (lofa) logging the interactive voice response system (IVR) off at the automatic call distribution system (ACD) is communicated, this being answered by the automatic call distribution system (ACD) with a log off acknowledgment (lofq), whereby an access protection information (pass) is inserted in the log off request (lofq) as parameter (p) and the check result of the log off request (lofa) is inserted in the log off acknowledgment (lofq).

11. Method according to one of the claims 1 through 10, characterized in that, in the framework of an inquiry (resa, resq) for reserving an agent (A) or, respectively, agent communication terminal equipment (AKE), a status request (staa) requesting the current status of an automatic call distribution system (ACD) is communicated from the interactive voice response system (IVR) to the automatic call distribution system (ACD), whereby at least an agent information (agid) identifying an agent (A) or a service information (si) indicating a group (G) of agents (A) or, respectively, an agent communication terminal equipment (AKE) or a group (G) of agent communication terminal equipment (AKE) is inserted as parameter (p).

12. Method according to claim 11, characterized in that, after communication of a status request (staa), the automatic call distribution system (ACD) communicates a status acknowledgment (staq), whereby, dependent on the status request (staa),

- a result information (ergi) indicating the check of the allowability of the status request (staa), and/or

- a status information (zusi) indicating the operating condition of the automatic call distribution system (ACD) and/or
 - an agent information (agi) indicating the number of free agents (A) or, respectively, agent communication terminal equipment (AKE), and/or
 - a report information (arnei) indicating the number of logged on agents (A) or, respectively, agent communication terminal equipment (AKE), and/or
 - a busy information (beli) indicating the number of busy agents or, respectively, agent communication terminal equipment (AKE), and/or
 - an availability information (vfbi) indicating the number of unavailable agents (A) or, respectively, agent communication terminal equipment (AKE)
- can be inserted into a status acknowledgment (staq).

13. Method according to one of the claims 1 through 12, characterized in that a reservation request (resa) effecting the reservation of agents (A) or, respectively, agent communication terminal equipment (AKE) is communicated from the interactive voice response system (IVR) to the automatic call distribution system (ACD), whereby

- a service information (si) requesting an arbitrary available agent (A) or, respectively, an agent communication terminal equipment (AKE) of a group (G) of agents (A) or, respectively, agent communication terminal equipment (AKE-G) or
- an agent identification (agid) requesting a specific person or, respectively, agent (A), and/or
- a waiting information (wari) indicating the time span for waiting for a specific agent (A) or one of a group (G) of agents (A) or, respectively, agent communication terminal equipment (AKE) and/or
- a status information (stai) indicating the reporting or non-reporting of the status of the reservation request (resa)

can be inserted as parameters (p).

that the interactive voice response system (IVR) communicates a request for reserving an available agent (A) or, respectively, agent communication terminal equipment (AKE) to the coupled, automatic call distribution system (ACD);

- whereby means for reserving available agents (A) or, respectively, agent communication terminal equipment (AKE) and for communicating the reservation to the interactive voice response system (IVR) are provided in the automatic call distribution system (ACD); and
- whereby means for influencing the allocated communication system (KS) such are provided in the interactive voice response system (IVR) that the affected communication terminal equipment (KE) is transferred to the reserved agent communication terminal equipment (AKE).

18. Communication arrangement according to claim 17, characterized in that program-oriented means are provided in the interactive voice response system (IVR) for forming log on, log off, status, reservation, display and release requests (lona, lofa, resa, anza, frea) and program-oriented means are provided in the automatic call distribution system (ACD) for forming logon, log off, status and reservation acknowledgments (lonq, lofq, staq, resq).

ADD
B2